

***Stackhousia subterranea*, a new name and revised circumscription for *S. gunnii* Hook.f. (Stackhousiaceae~Celastraceae)**

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It became evident on examination of Tasmanian populations of *Stackhousia gunnii* Hook.f. in the field in 1995 that this species is conspecific with an unnamed mainland race of *S. monogyna* Labill. s.lat. This race is widespread in mallee habitats on calcareous loams on the southeastern Australian mainland (Barker 1986, 1999).

In my account in the *Flora of Australia* (Barker 1984), *S. monogyna* was circumscribed very broadly to encompass all racemose species with single flowers at each node in the inflorescence and cocci without wings. The *Flora* treatment was, through urgency, an interim pre-revisional view of the family in which many good, previously recognised taxa across southern Australia were swept under this name. Earlier and subsequent treatments for South Australia (Barker 1969, 1977, 1986, 2005) and a subsequent treatment for Victoria (Barker 1999) resurrected some of these taxa. A paper in its advanced stages will go a long way to resolving this complex (Barker, in preparation); it gives the basis for the concepts provided to and presented in the Australian Plant Census (W.R. Barker in Council of Heads of Australasian Herbaria 2006).

Since its detailed description in 1855 (Hooker 1855), *S. gunnii* Hook.f. has been considered a Tasmanian endemic, restricted to the dry midlands region of the island. It has been listed as an endangered species in Tasmania (Kirkpatrick et al. 1991; Department of Primary Industries & Water 2006), a status that is under review following understanding of its wider distribution (M. Duretto pers. comm., early 2006).

A new name is here supplied for the species currently known as *S. gunnii* because that name is illegitimate, being a later homonym (Barker 1969). It is predated by the earlier name *S. gunnii* Schldl. (Schlechtendal 1847), which is based on a different Tasmanian specimen collected by Ronald Gunn (no. 69), and is a synonym of *S. monogyna* Labill., in its strict sense (Barker 1969).

***Stackhousia subterranea* W.R.Barker, nom. nov.**

Replaced name: *Stackhousia gunnii* Hook.f., Fl. Tasman. 1:79 (1855), nom. illeg., [non *S. gunnii* Schldl., Linnaea 20: 642 (1847)]. **Lectotypus hic designatus:** *Gunn 1048/1842*, 6 Nov 1843, Formosa./ Open sandy pasture land. K s.n. (p.p.) (specimen closest to label); *isolectotypi*:

K s.n. (p.p.: other specimens on lectotype sheet attributable to Formosa collection on sheet); *isolectotypus probabilis*: *Gunn 1048*, 6 Nov 1843, Formosa, NSW148156 (p.p.); *syntypi*: *Gunn 1048*, 30 Oct 1845, Snake Banks K s.n. (p.p.); *syntypi probabiles*: *R. Gunn 1048/1842*, 29 Oct 1841. At Formosa, Lake River, BM s.n. (p.p.); *R.C. Gunn s.n.*, s.dat., "Ex Herb. Hook./Stackhousia Gunnii, Hook. fil./ Hab. Tasmania". M s.n. S s.n. WU s.n.; *syntypus possibilis*: *Gunn 1048*, 6 Nov 1843, Formosa. Open pastures. NSW148156 (p.p.).

S. flava auct. non Hook.: J.M.Black, Fl. S. Austral 2: 538 (1952), p.p.

S. sp. 1: W.R.Barker, Fl. Victoria 4: 51 (1999)

S. aff. monogyna (Western Plains): J.H.Ross, Census Vasc. Pl. Victoria edn 5 (1996)

S. monogyna auct. non Labill.: W.R.Barker, Fl. Austral. 22: 188 (1984), p.p.; W.R.Barker, Fl. S. Austral. 806 (1986), p.p.; W.R.Barker, Cens. S. Austral. Vasc. Pl. 89 (2005), p.p.

Typification

The sheet bearing the lectotype also bears a collection *Gunn 1048* from Snake Banks. The lectotype should come from this sheet as Hooker's (1855) protologue matches one of Gunn's handwritten labels and, as alluded to in the protologue, the suite of plants are quite uniform. There is doubt in matching the two collection labels on the sheet with the many flowering branches on the sheet. In the National Herbarium of New South Wales (NSW) there is a duplicate of the chosen lectotype label, but this is of little help as, in keeping with what Gunn has written, the plants are very uniform, as they are throughout all isosyntypes. The solution has been to take the nearest specimen to the label as the lectotype, taking advice (P.S. Green, pers. comm., early 1970s), that material in the Hooker Herbarium at the Royal Botanic Gardens, Kew (K) is mounted close to the pertinent label, and to designate other material as belonging to either isolectotype or other syntype material.

Etymology

The Latin adjective *subterraneus* alludes to the distinctive method of perennation from an underground root system, which in the genus is restricted to this species.

Diagnostic features, distribution and ecology

Stackhousia subterranea is closely allied to *S. monogyna* Labill., in its strict sense applied here. Amongst species with flowers single in the axils, these two species share the feature of reduced (vestigial) bracteoles. *S. subterranea* differs from *S. monogyna* s.str. by its horizontal roots deep in the soil, from which clonal aerial stems or clusters of stems arise (Barker 1986, 1999), its thick rather fleshy leaves, its bracts outwardly saccate in the basal half or two-thirds (Barker 1977, fig. 1A), and its tetraploid chromosome number (Barker 1969; M. Kiehn & W.R. Barker, in preparation). It is widespread in calcareous mallee woodlands and associated more open vegetation of peninsular regions of South Australia to south-eastern Australia and Tasmania.

By comparison (Barker 1986, 1999), *S. monogyna* s.str. is also perennial, but initially with a single aerial stem and in subsequent years clusters of stems arising from a vertical tap root. The species commonly has thin pliant leaves, bracts hardly swollen at the base, and (M. Kiehn & W.R. Barker, in preparation) a diploid chromosome number; and is widespread in wet and dry sclerophyll forests and coastal habitats of eastern Australia, with a possible outlier in the southern Flinders Ranges of South Australia.

Ronald Campbell Gunn, noted for his intimate observations so important to the documentation of Tasmanian plants by colleagues such as J.D. Hooker, observed the difference in root system between the two species (Hooker 1855). The notes in Gunn's hand on the lectotype about *S. subterranea* incorrectly indicate, however, that *S. monogyna* (Gunn 69: as *S. obtusa*) is annual:

1048. *Stackhousia*. Certainly a distinct species. It is not uncommon in all the open sandy pasture lands of Norfolk Plains, Epping Forest, &c – usually having one single stalk only, and the root seems in many cases to run along under the surface of the ground. At all counts the root is not fibrous like my 69. - I believe it to be perennial whereas 69 is annual. The colour of the flowers is yellowish cream colour; & it flowers about 1 [Nov^r].

Hooker (1855) disagreed with Gunn, specifying that the roots of *S. monogyna* were perennial.

Conservation status

While the species overall is not at all endangered, being common in many parts of its range in mainland Australia, the endangered status accorded the Tasmanian populations in its diminished midlands habitats

(Department of Primary Industries & Water 2006) should surely be retained.

Acknowledgements

Louise Gilfedder is thanked for taking me on a day in the field in October 1995 in Tasmania's midlands to view scattered populations of "*S. gunnii* Hook.f."

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